

Appl. No. 09/920,450  
Amdt. dated October 13, 2004  
Reply to Office action of July 13, 2004

## REMARKS

Reconsideration is respectfully requested. Claims 1-9 were present in the application. Claims 3-6 are amended herein. Claims 1, 2 and 7 are canceled. New claims 10-14 are added.

The Examiner objects to claims 1 and 2, stating the claims are narrative in form and replete with indefinite and functional language. The applicants have cancelled claims 1 and 2 and replaced them with new claims 10 and 11 which are believed to be in proper form. Claim dependencies have been changed accordingly. Applicants respectfully request the Examiner withdraw the objection.

Claims 1-6, 8 and 9 are rejected under 35 U.S.C. §102(e) as allegedly being fully anticipated by Batchelder et al. U.S. 5,220,403.

Applicants respectfully traverse. Batchelder et al. have not anticipated applicants' invention as claimed.

Among other details, claim 10 includes "a difference judging circuit for judging a difference between the light reflected from one of the at least two regions and an other of the at least two regions". Batchelder et al. make no such comparison of two regions of the same object of study.

Batchelder et al. teach using a number of different microscopes to measure the inner contour of a semiconductor wafer, or other high index material providing a means and

Appl. No. 09/920,450  
Amdt. dated October 13, 2004  
Reply to Office action of July 13, 2004

apparatus to capture the high angle light waves that propagate from the material. The inspection is presumably carried out to ensure the wafer or high index material is manufactured according to undisclosed design specifications. Applicants use a simple apparatus and method to check a phase shift mask for defects. Two separate points on the same phase shift mask are compared. If the difference is more than a predetermined threshold, a further measurement is made to determine which of the points is defective. Batchelder et al. have not anticipated such a simple method of checking for defects. In fact the reference does not discuss looking for defects, but is instead is used for imaging and metrology.

Applicants' apparatus and method as disclosed and claimed embody a defect inspection apparatus, used to find defects in phase shift masks. Applicants' apparatus and method are not an inspection or metrology means. Further, the Batchelder et al. apparatus and method is not a defect inspection means. Batchelder et al. do not teach making comparisons of two different regions of an object under study. Batchelder et al. make no suggestion to attempt such a comparison in order to locate defects. The main thrust of the specific teachings of the Batchelder et al document is regarding directing high angle light rays through wafers, rays that would otherwise be reflected off the lens/wafer interface, by suggesting an improved coupling means.

Page 7 — RESPONSE (U.S. Patent Appln. S.N. 09/920,450)  
[\\Files\Files\Correspondence\October 2004\407rtoa101304.doc]

Appl. No. 09/920,450  
Amdt. dated October 13, 2004  
Reply to Office action of July 13, 2004

The Batchelder et al. method and apparatus do not suggest measuring at least two locations on a single item under study except to use a second or third detection means to double check the lens is properly coupled to the wafer. See column 7 lines 45-59, and Fig. 1a. Figs. 4e and 4g illustrate the Batchelder et al. use of a reference wafer in interferometer arrangements. Column 14 lines 35-38 describes "One method by which the effect of this aberration [due to the phase shift which occurs on total internal reflection, col. 14 lines 21-22] can be substantially eliminated by designing the optical system as a two-beam heterodyne interferometer."

The Batchelder et al document clearly does not anticipate applicants' device as claimed. The document is absent any teaching to locate defects in as simple and as easy a way as applicants have. Indeed the Batchelder et al document does not teach looking for defects.

Claims 3-6, 8, 9, and 11-12 depend from and include all the limitations of claim 10 which as discussed is believed in condition for allowance. Allowance of the dependent claims is believed warranted and is respectfully requested.

New method claims 13 and 14 are presented. They are believed to be in condition for allowance. Allowance is respectfully requested.

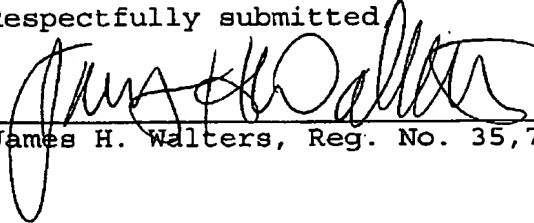
In light of the above noted amendments and remarks, this application is believed in condition for allowance and notice

Page 8 — RESPONSE (U.S. Patent Appln. S.N. 09/920,450)  
[\\Files\Files\Correspondence\October 2004\407rtoa101304.doc]

Appl. No. 09/920,450  
Amdt. dated October 13, 2004  
Reply to Office action of July 13, 2004

thereof is respectfully solicited. The Examiner is asked to contact applicant's attorney at 503-224-0115 if there are any questions.

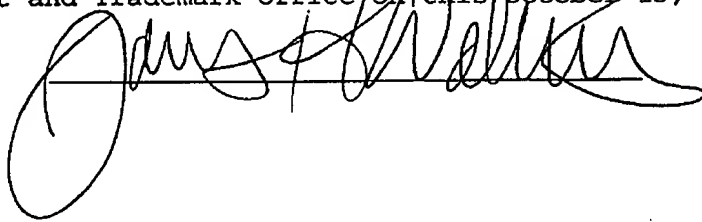
Respectfully submitted

  
James H. Walters, Reg. No. 35,731

Customer number 802  
DELLETT AND WALTERS  
P.O. Box 2786  
Portland, Oregon 97208-2786 US  
(503) 224-0115  
DOCKET: A-407

Certification of Facsimile Transmission

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on this October 13, 2004.



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**